

REMARKS

The Office Action dated October 3, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1 and 3-5 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Support for the claim amendments may be found at least in paragraphs 0030-0032 of the present specification. No new matter has been added. Claims 1-5 are currently pending and are respectfully submitted for consideration.

The Office Action rejected claims 1-5 under 35 U.S.C. §102(e) as being anticipated by Ohshiro (U.S. Patent No. 6,998,076). The Office Action took the position that Ohshiro discloses all of the elements of the present claims. This rejection is respectfully traversed for at least the following reasons.

Claim 1, upon which claims 2-4 are dependent, recites an injection molding machine comprising a mold closing processing section which advances a movable platen so as to perform mold closing by a movable mold and a stationary mold disposed in opposition to the movable mold. The injection molding machine further includes a movable-platen-position determination section which determines whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into

contact with the stationary mold, and an injection processing section which starts an injection step when the movable platen reaches the injection start position.

Claim 5 recites an injection molding method comprising advancing a movable platen so as to perform mold closing by a movable mold and a stationary mold disposed in opposition to the movable mold, determining whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold, and starting an injection step when the movable platen reaches the injection start position.

As will be discussed below, Ohshiro fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Ohshiro discloses an injection compression molding method for molding a thin molding. The method includes a molding space forming step of forming a molding space by joining together a movable mold and a stationary mold, an injecting step of injecting the molding material into the molding space by an injection unit, and a nonloaded flow step of controlling the mold clamping unit in such a manner that any resistance is not exerted substantially against flow of the molding material injected into the molding space by the injection unit, during the injecting step. The method further includes a preliminary clamping step of controlling the mold clamping unit in such a manner that a predetermined preliminary clamping pressure is applied to the molding material that has been injected into the molding space by the injection unit, during the injecting step, and a

transfer clamping step of controlling the mold clamping unit in such a manner that a predetermined transfer pressure is applied to the molding material that has been injected into the molding space by the injection unit to transfer a desired pattern of a thin molding, after the injecting step.

Applicants respectfully submit that Ohshiro fails to disclose or suggest all of the elements of the present claims. For example, Ohshiro does not disclose or suggest “a movable-platen-position determination section which determines whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold,” as recited in claim 1. Similarly, Ohshiro fails to disclose or suggest “determining whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold,” as recited in claim 5.

According to embodiments of the present invention, as described in paragraphs 0030-0032 and Fig. 4 of the application, a movable platen 23 is moved from a mold opening limit position (a retreat limit position Sa) towards a mold closing limit position (an advancement limit position Sd). When the movable platen 23 reaches an injection start position Sb set between the mold opening limit position and the mold closing limit position, an injection step is started. The movable mold 24 does not come into contact with the stationary mold 14 at the injection start position Sb (Specification, paragraphs

0031-0032). In other words, according to an embodiment of the invention, the injection start position S_b is set at a position where the movable mold 24 does not come into contact with a stationary mold 14.

Ohshiro, on the other hand, does not disclose or suggest making a determination of whether the movable platen has reached an injection start position, set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold, as recited in the present claims. The Office Action only cited Column 1, lines 29-33 of Ohshiro as allegedly disclosing the determining step of the claims. However, this section of Ohshiro merely discloses that a “mold is clamped by a low mold clamping force during a filling step to suppress the internal strain that may be caused during the filling step. Generally, an injection compression circuit is used to increase the mold clamping force at the completion of the filling step, or before and/or after the completion of the filling step, and to ensure the formation of recording pits” (Ohshiro, Column 1, lines 29-33). This section of Ohshiro does not disclose or suggest whether the movable platen has reached an injection start position, set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold.

Furthermore, the remaining disclosure of Ohshiro also does not appear to disclose the limitations of the present claims. Ohshiro only discloses that the mold clamping pressure is controlled in a two-stage clamping pressure control mode. As illustrated in Fig. 1A, the mold clamping pressure is maintained at P₀ for a term T₁₁, and is

maintained at P1 for a term T12 in the clamping pressure holding phase (Ohshiro, Column 4, lines 17-22). Ohshiro, therefore, does not appear to make any mention of determining whether the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold.

Therefore, Applicants respectfully submit that Ohshiro fails to disclose or suggest all of the elements of claims 1 and 5. As such, Applicants respectfully request that the rejection of claims 1 and 5 be withdrawn.

Claims 2-4 are dependent upon claim 1. Accordingly, claims 2-4 should be allowed for at least their dependence upon claim 1, and for the specific limitations recited therein.

Claims 1-5 were also rejected under 35 U.S.C. §102(b) as being anticipated by Sasaki (U.S. Patent No. 5,500,166). The Office Action took the position that Sasaki discloses all of the elements of the present claims. This rejection is respectfully traversed for at least the following reasons.

Sasaki discloses a combination of a compression molding device and an injection device. The compression molding device comprises a stationary die plate for holding a stationary die arranged vertically to a ground surface, a movable die plate for holding a movable die, means for rapidly extending and retracting the movable die plate in a generally horizontal direction relative to the stationary die plate, and a die fastening means for moving the movable die plate toward the stationary die plate so as to fasten the

dies while a molten plastic material is compressed and drawn after the movable die plate has approached the stationary die plate to a predetermined position. The injection device comprises a device for opening a flow control valve so as to feed the molten plastic material to the compression molding device after the movable die plate has approached the stationary die plate to the predetermined position.

Applicants respectfully submit that Sasaki fails to disclose or suggest all of the elements of the present claims. For example, Sasaki does not disclose or suggest “a movable-platen-position determination section which determines whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold,” as recited in claim 1. Similarly, Sasaki fails to disclose or suggest “determining whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold,” as recited in claim 5.

As discussed above, according to embodiments of the present invention as described in paragraphs 0030-0032 and Fig. 4 of the application, a movable platen 23 is moved from a mold opening limit position (a retreat limit position Sa) towards a mold closing limit position (an advancement limit position Sd). When the movable platen 23 reaches an injection start position Sb set between the mold opening limit position and the mold closing limit position, an injection step is started. The injection start position Sb is

set at a position where the movable mold 24 does not come into contact with a stationary mold 14 (Specification, paragraphs 0031-0032).

Sasaki, on the other hand, discloses moving the movable die 221 from its fully retracted position towards the stationary die 211 such that the slide dies 222 comes into contact with the stationary die 211. Subsequently, the injection of molten plastic material is initiated (Sasaki, Column 16, lines 50-60). When the mold closing step is completed (Sasaki, Fig. 10E), a mold clamping step is performed (Sasaki, Fig. 10F). In this case, when the movable die 221 reaches an injection start position (Sasaki, Fig. 10B) set between the mold opening position (Sasaki, Fig. 10A) and mold closing position (Sasaki, Fig. 10F), the injection step is started.

Sasaki fails to disclose or suggest determining “whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold,” as recited in claims 1 and 5. Rather, as discussed above, Sasaki merely discloses that, when the slide dies 222 of the movable die 221 come into contact with the stationary die 211, the injection step is started (see Sasaki, Fig. 10B). Sasaki does not disclose or suggest that the injection start position is a position “at which the movable mold does not come into contact with the stationary mold.” Thus, Applicants respectfully submit that Sasaki fails to disclose or suggest all of the elements of claims 1 and 5. Accordingly, Applicants respectfully request that the rejection of claims 1 and 5 be withdrawn.

Claims 2-4 are dependent upon claim 1. As such, claims 2-4 should be allowed for at least their dependence upon claim 1, and for the specific limitations recited therein.

The Office Action also rejected claims 1-5 under 35 U.S.C. §102(b) as being anticipated by Yamamoto (JP 63-135221). The Office Action took the position that Yamamoto discloses all of the elements of the present claims. This rejection is respectfully traversed for at least the following reasons.

Yamamoto discloses a method for molding a resin product. Mold clamping is started by advancing a movable mold towards a fixed mold at a high or medium speed. Once the movable mold reaches a predetermined position, the speed of the movable mold is changed to low speed. Afterwards, the cavity is vacated and at the same time molten resin is injected into the cavity.

Applicants respectfully submit that Yamamoto fails to disclose or suggest all of the elements of the present claims. For example, Yamamoto does not disclose or suggest “a movable-platen-position determination section which determines whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold,” as recited in claim 1. Similarly, Yamamoto fails to disclose or suggest “determining whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold,” as recited in claim 5.

As outlined above, according to embodiments of the present invention, a movable platen 23 is moved from a mold opening limit position (a retreat limit position Sa) towards a mold closing limit position (an advancement limit position Sd). When the movable platen 23 reaches an injection start position Sb set between the mold opening limit position and the mold closing limit position, an injection step is started (Specification, Fig. 4). The injection start position Sb is set at a position where the movable mold 24 does not come into contact with a stationary mold 14 (Specification, paragraphs 0031-0032).

Yamamoto, however, discloses that, when a movable mold 4 is moved so as to enter into a stationary mold 2 by a predetermined amount, an injection step is started. Therefore, Yamamoto specifically teaches that the movable mold 4 comes into contact with the stationary mold 2 prior to the start of the injection step. Accordingly, Yamamoto cannot disclose or suggest determining “whether or not the movable platen has reached an injection start position set between a mold opening limit position and a mold closing limit position, at which the movable mold does not come into contact with the stationary mold,” as recited in claims 1 and 5.

Therefore, Applicants respectfully submit that Yamamoto fails to disclose or suggest all of the elements of claims 1 and 5. As such, Applicants respectfully request that the rejection of claims 1 and 5 be withdrawn.

Claims 2-4 are dependent upon claim 1. Accordingly, claims 2-4 should be allowed for at least their dependence upon claim 1, and for the specific limitations recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the cited prior art fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-5 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time